

WHAT IS CLAIMED IS:

1. An apparatus for positioning a sunroof with a vehicle body, comprising:
a base member mounted to a running rail, the base member movable along and
vertically to the running rail;

5 a floating plate mounted to the base member, interposing a plurality of ball
bearings and a free cylinder such that the floating plate is movable in longitudinal and
transverse directions with respect to the base member, the floating plate having a
centering attachment unit mounted thereon;

a secondary lift structure mounted to the floating plate, interposing a secondary
10 lift guider and a secondary lift cylinder such that the secondary lift structure is liftable
with respect to the floating plate, the secondary lift structure including a sunroof
attachment unit and a primary lifting shaft; and

a centering cylinder unit disposed between the secondary lift structure and the
floating plate, such that the centering cylinder unit aligns the centering attachment unit
15 on the floating plate to a sunroof mounting position on the vehicle body.

2. The apparatus of claim 1, wherein the free cylinder is fixed to the base member
and connected at its piston end to a fixing ring such that the free cylinder firmly holds or
moves a fixing member projected downward from the floating plate.

20 3. The apparatus of claim 1, wherein the primary lifting shaft comprises:
a housing vertically mounted to the secondary lift structure interposing a
bracket;

a rod movably disposed in the housing;

25 a pressuring cap disposed at an upper end of the rod; and

a dog disposed at a lower end of the rod.

4. The apparatus of claim 3, further comprising a detection sensor disposed below
the dog such that the detection sensor detects a lowering of the dog.

30 5. The apparatus of claim 1, wherein:

the centering cylinder unit comprises a longitudinal centering cylinder and left
and right centering cylinders; and

the centering attachment unit comprises a longitudinal centering attachment member operated by the longitudinal centering cylinder, and left and right centering attachment members respectively operated by the left and right centering cylinders.

- 5 6. An apparatus for positioning a sunroof to a vehicle body, comprising:
- a base member mounted on a running rail, the base member movable along and vertically to the running rail;
- a floating plate mounted to the base member, movable in longitudinal and transverse directions with respect thereto, the floating plate having a centering
- 10 attachment unit mounted thereon;
- a secondary lift structure mounted to the floating plate, being liftable with respect to the floating plate, the secondary lift structure including a sunroof attachment unit and a primary lifting shaft; and
- a centering cylinder unit disposed between the secondary lift structure and the
- 15 floating plate such, that the centering cylinder unit aligns the centering attachment unit on the floating plate to a sunroof mounting position on the vehicle body.